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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,930	10/24/2001	Hisanori Kawakami	9319S-000285	3796

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EXAMINER

CARIASO, ALAN B

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,930

Applicant(s)

KAWAKAMI ET AL.

Examiner

Alan Cariaso

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed September 23, 2002 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by MITSUBISHI (GB 2,165,631).
5. MITSUBISHI discloses a light source (A); a light guide (2) receiving light from the light source at a light-receiving face (fig.2) and emitting light from a light emitting face (surface adjacent 4), wherein a face (surface adjacent 6-figs.2,5) opposite the light-

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receiving face of the light guide (2) is formed as an inclined plane; wherein an angle of inclination of the inclined plane is approximately ten degrees (pg.3, lines 18-19; pg.4, lines 8 and 11) in a positive or negative direction with respect to a plane normal to the light emitting face of the light guide (2); wherein a reflective member (5) is provided on the face opposite the light emitting face of the light guide; wherein a reflective member (6) is provided on the inclined plane.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over MITSUBISHI (GB 2,165,631) in view of YOKOYAMA (US 5,134,549) and SUZAWA (US 4,487,481).

8. In regards to claims 5-7 and 10, MITSUBISHI discloses applicant's invention including a diffusing layer (3) on the light-emitting face and face opposite thereof (fig.5). However, MITSUBISHI does not disclose the diffusion patterns where the density of the diffusion patterns increases from the inclined plane toward a middle part of the light guide, the pattern density expression $S_0 < S_1 < S_2$ and distance expression $L_1 > L_2$.

9. YOKOYAMA teaches a light guide (2-figs.5-8) in the same field of endeavor having a diffusion pattern (6-fig.8) on a major face of the light guide, the diffusion

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pattern (6) having a density increase from a plane (5) toward a middle part of the light guide (fig.8) for the purpose of correcting the defect of non-uniform light luminance distribution at the second reflecting surface (5) or distal end (5b-fig.5) providing a nearly uniform luminance distribution over the entire range (col.2, lines 18-45). The density diffusion pattern of fig.8 of YOKOYAMA also meets the expressions $S0 < S1 < S2$ and $L1 > L2$, where the greatest diffusion density designated by numeral "6" in fig.8 represents density S2 being successively greater than the densities right of "6" representing density S1 and left of "6" representing density S0 for the purpose stated above. Since the greatest density "6" of YOKOYAMA is off center of the plate towards the right or distal end, it meets the expression $L1 > L2$. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the light diffusing light guide device of MITSUBISHI to include the type of diffusion pattern of increasing density away from the inclined or distal end as taught by YOKOYAMA in order to provide substantially uniform light luminance distribution over the entire range.

10. In regards to claims 9 and 10, MITSUBISHI discloses applicant's invention substantially as claimed including a liquid crystal display devices, except a pair of substrates sandwiching liquid crystal.

11. SUZAWA teaches a liquid crystal display device in the same field of endeavor including a pair of substrates (2,3-fig.1) sandwiching liquid crystal (7) to define a liquid crystal panel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD-light guide device of MITSUBISHI to

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include the type liquid crystal panel as taught by SUZAWA in order to contain liquid crystal between operative substrates to define a visual display to be illuminated.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over MITSUBISHI (GB 2,165,631) in view of YOKOYAMA (US 5,134,549) and SUZAWA (US 4,487,481) as applied to claims 5-7, 9 and 10 above, and further in view of KENMOCHI (US 5,128,842).

13. MITSUBISHI modified by YOKOYAMA and SUZAWA above discloses applicant's invention except an LED light source or light emitting diode. KENMOCHI teaches a light guide device in the same field of endeavor that includes light emitting diodes (4) for the purpose providing an elongate light source at an edge of the light guide (1) to illuminate a key-display (5).

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the light guide display device of MITSUBISHI to include plural LEDs as taught by KENMOCHI in order to provide an elongate light source at one edge of the light guide to illuminate the display.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. MATSUI et al (US 4,985,809) shows an LCD light guide plate device that includes diffusion pattern on a major surface that has a diffusion density greatest at 2/3 the length of the light guide away from the light source edge.


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AIZENBERG et al (US 4,105,293) show a light guide that has an inclined distal end opposite the end of the light source and the light guide having a diffusion pattern (fig.2) on a major surface. OHE (US 4,775,222) show an inclined end light guide related to the UK Patent to MITSUBISHI.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (703) 308-1952. The examiner can normally be reached on M-F (9:00-5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.



Alan Cariaso
Primary Examiner
Art Unit 2875

AC
December 23, 2002